

SHOPMADE DOVETAIL RECESS TOOL

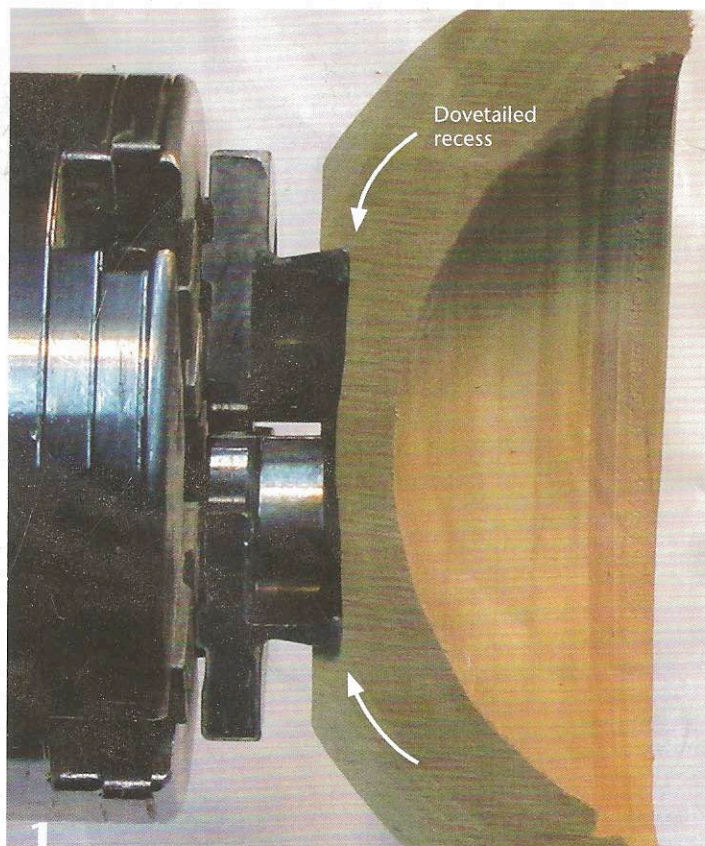
Mike Peace

If you use a four-jaw chuck in expansion mode to hold a bowl or platter, and your chuck has jaws that are angled like a dovetail, you need to create a recess with an angled outer wall to accommodate the jaws (*Photo 1*).

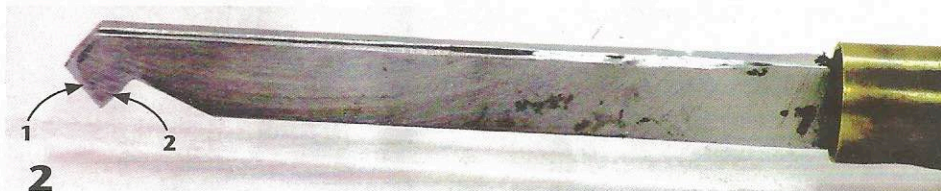
You can use a variety of tools to cut this recess, such as a bedan or skew or even a commercial dovetail scraper, though most of these tools are difficult to use with the tailstock in place. It can also be a challenge to consistently form the correct angle on the outside wall of your recess to match the dovetail jaws of your chuck. One solution is to make a customized scraper, ground so that the handle clears the tailstock's live center and the recess walls are automatically formed at the correct angle (*Photo 2*).

The dovetail angle on my chuck jaws is 10.5°, so I have ground the cutting surfaces on my recess tool to approximate that angle. Your chuck's dovetail angles may be different. Ideally, you would cut your dovetail recess to match the jaws exactly, but it doesn't have to be perfect. My tool cuts about an 8° recess. Too steep a dovetail, like 15°, is worse than one that is angled a bit less than ideal.

If you don't have a surplus tool to repurpose, you can buy a high-speed steel (HSS) tool blank and make your own.



Chucking in expansion mode. This cutaway shows an accurately formed recess whose outer wall is angled to match the splay of the chuck jaws. A simple shopmade tool will produce the correct angle every time. Two jaws removed for cutaway illustration only.

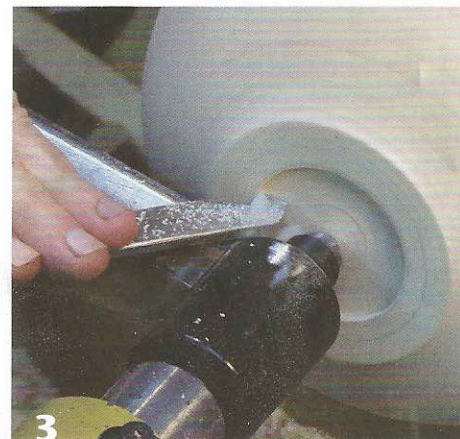


The author's shopmade dovetail recess tool, made from an old skew 1/2" (13mm) wide and a bit less than 1/4" (6mm) thick. Edge 1 forms the bottom of the recess, and edge 2 forms the angled wall. The angle between these two edges should match the angle on the outside of your dovetail jaws (in my case, about 80°). Since edges 1 and 2 are being used as scrapers, their bevels should be ground at a 70° to 80° angle.

Using the tool

Holding the tool flat on the toolrest, guide the recess-bottom cutting edge (*surface 1 in Photo 2*) in first, then move the tool to the left to form the angled wall. With a little practice, you will be able to form flat-bottomed recesses with your desired wall angle every time (*Photo 3*).

Mike Peace enjoys a wide variety of turning, from ornaments to hollow forms. He is active in several AAW chapters and enjoys teaching and demonstrating in the Atlanta area. You can see pictures of Mike's work and his previously published woodturning articles at MikePeacewoodturning.blogspot.com.



This picture shows the tool can be used even with a live center in the way.